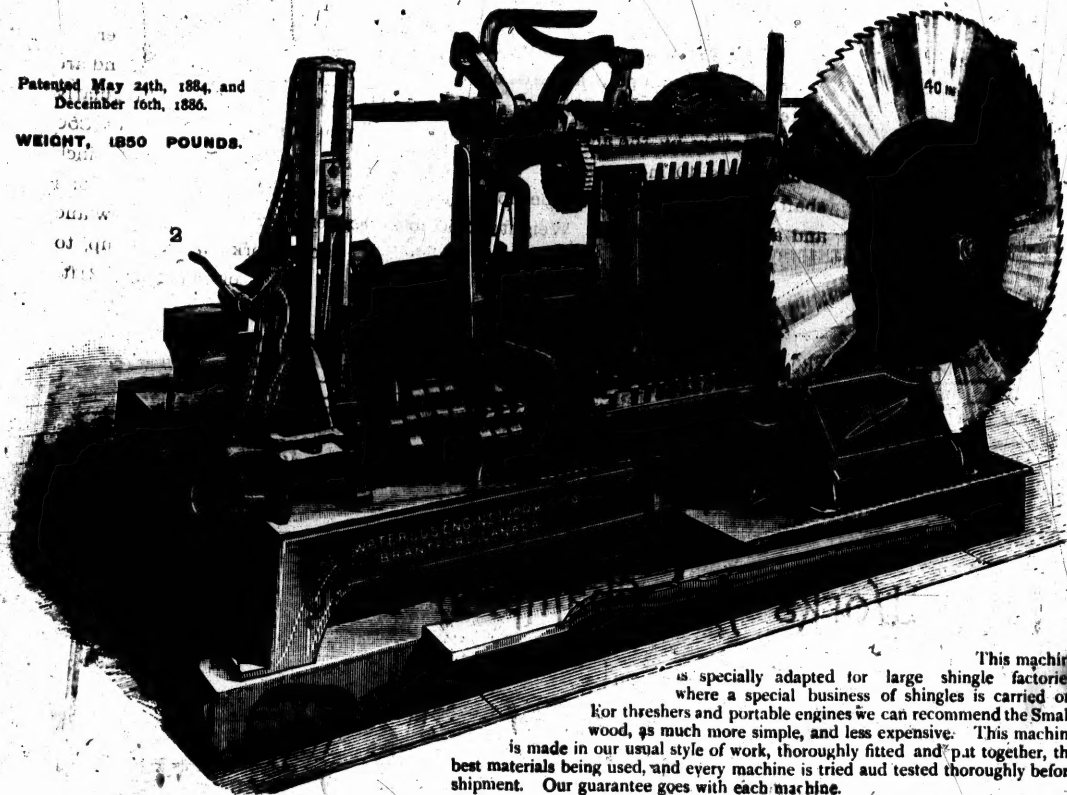


The "Boss" Shingle Machine.

Patented May 24th, 1884, and
December 16th, 1886.

WEIGHT, 1850 POUNDS.



This machine is specially adapted for large shingle factories, where a special business of shingles is carried on. For threshers and portable engines we can recommend the Smallwood, as much more simple, and less expensive. This machine is made in our usual style of work, thoroughly fitted and put together, the best materials being used, and every machine is tried and tested thoroughly before shipment. Our guarantee goes with each machine.

THE MACHINE HAS A FRICTION FEED very smooth and positive. With the saw running at 1,400 revolutions per minute—the feed for the whole length of cut, or, say, 12 in. shingle, will be 42 cuts per minute.

THE SEVEN TRIP DOGS for shortening the stroke, each shorten the stroke about five strokes per minute, so that at the shortest stroke for narrow shingles the machine will cut from 75 to 85 shingles per minute according to the speed of saw.

A VERY IMPORTANT ADVANTAGE—By using the foot lever shown in front of machine the top jaw of carriage, for holding and dogging the block, can be raised with the foot, so as to give the operator the free use of both hands to handle the block.

BUTTS OR TIPS CAN BE MADE CONTINUOUSLY at either end of the block, by simply throwing a small trip (2) shown at the hand of cut and within easy reach of the sawyer. This enables a knot or defect in the timber to be run into the points till sawed out, keeping shingles first class, while if butts and tips alternately 50 per cent. with the knot in the butt would be gulls.

THE CAPACITY OF THIS MACHINE depends to a very large extent on the quality of material out of which shingles are being cut, the usual run for ordinary blocks is from 20,000 to 30,000 shingles per day, but with good blocks this can be exceeded 20 to 40 per cent. Full directions for setting up furnished with each machine.

In making this machine we have adapted to it many of the good points of the Smallwood machine, which our many years of experience have proved to be necessary and essential. Instead of toothed disks to set out bolt, held in place by gas pipe thimbles, all tightened up by a nut at one end of shaft, we use a solid shaft turned to shape so that it is impossible for toothed disks to get loose and refuse to set block out perfectly. Recognizing the fact that the set wheels or pinions cannot be too true we use cut gear, cutting them out of solid turned wheels by machinery, making each tooth perfectly true and thin edged instead of irregular and rough as they are sure to be when cast gear. A spring has been put on the top set paul to hold it to place. We use hard leather board frictions in place of straw board, and collars to hold mandrel to place instead of grooves cut in bearings. The box that supports outer end of friction pinion shaft is cast separate from frame to cheapen repairs in case of accident. Seven trip dogs in place of six giving more range to feed of machine. It is impossible to give all the minor details, but we can say that this machine is built conscientiously to sustain our reputation for first class work and can be thoroughly relied on.

Champion Drag Saw Machine.

Best Machine for the Purpose Made in Canada.

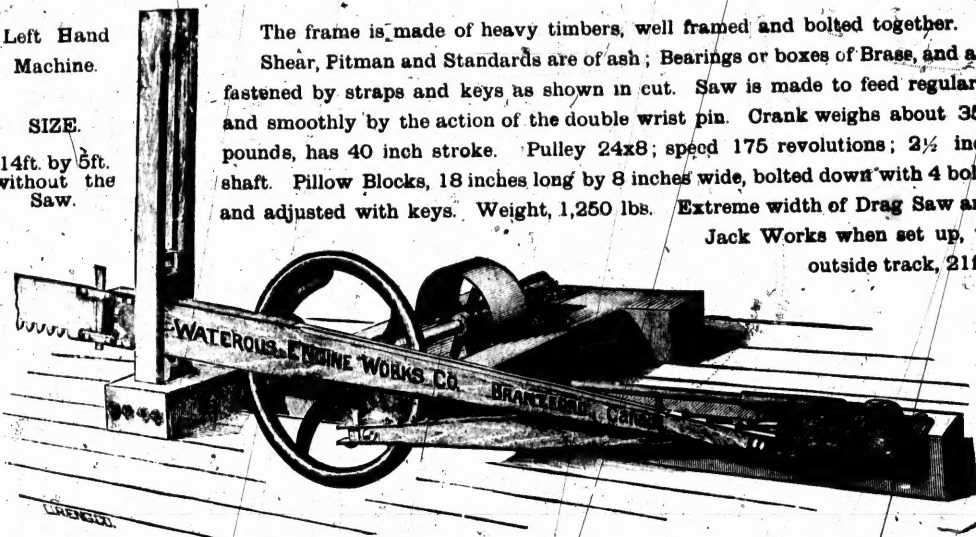
Left Hand
Machine.

SIZE.

14 ft. by 5 ft.
without the
Saw.

The frame is made of heavy timbers, well framed and bolted together. Shear, Pitman and Standards are of ash; Bearings or boxes of Brass, and are fastened by straps and keys as shown in cut. Saw is made to feed regularly and smoothly by the action of the double wrist pin. Crank weighs about 350 pounds, has 40 inch stroke. Pulley 24x8; speed 175 revolutions; 2 1/2 inch shaft. Pillow Blocks, 18 inches long by 8 inches wide, bolted down with 4 bolts and adjusted with keys. Weight, 1,250 lbs. Extreme width of Drag Saw and

Jack Works when set up, to
outside track, 21 ft.



Jack Works for Champion Drag Saw.

For hauling logs into mill and moving them
the length of shingle blocks to drag saw.

Using a 3/4 inch cable chain or a 6 inch link chain,
same weight, with a grab hook to fasten in end of log.

Ewart's Giant Chain. No. 600 with log
special as desired, makes the best arrangement. Logs
are simply rolled into a trough, and first special cutting
log takes it along without further attention. Does not
twist or slip, and runs on sprocket wheels.

Pulley, 20 in. x 8 in. Speed, 250 revolutions per minute.

Weight, 1,050 exclusive of chain. Size 5 ft. x 4 ft.



Shingle Manufacturers Save your Timber.

Sapping with an axe wastes from 25 to 30 per cent.

Split Bolts require several cuts to be made before
a perfect shingle is cut. Nothing wasted and a perfect
shingle first cut, where Knee Bolter is used.

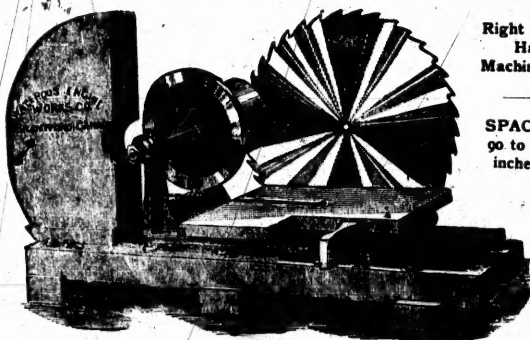
Saw, 50 inches; pulley, 16x10 inch face; speed 800.
Steel arbor, solid yoked boxes. Guard easily removed
to sharpen or remove saw. Weight, 1,100 lbs.

Carriage covered with sheet iron. Runs on wheels,
and is gibbed down to keep it on the track. Has pivot
on centre which raises bolt to adjust it. Is light and
strong.

Advantages

Both hands are at liberty to manage block.
Feed controlled by motion of sawyer's body.
Will bolt & sap from 4 to 6,000 blocks per day.

CHAMPION KNEE BOLTER & SAPPER



Right
Hand
Machine.

SPACE:
90 to 92
inches.

THE WATEROUS ENGINE WORKS CO., LTD.

BRANTFORD, CANADA, AND ST. PAUL, MINNESOTA, U. S. A.

The Farmers and Threshers Saw Mill

KEEP YOUR ENGINE AT WORK.

INCREASE YOUR EARNINGS



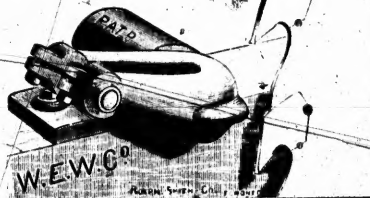
A Saw Mill, Shingle Mill or Grain Chopper

NO. 0 SAW IRONS.

A Strictly First Class Mill in every Particular.

THIS new frame and carriage was brought out last year to meet a long felt want of a cheap but a thoroughly good saw mill attachment for farm and threshing engines, which would come within the reach of farmers and threshers, and at the same time be capable of manufacturing lumber equal in quality to any circular machinery built.

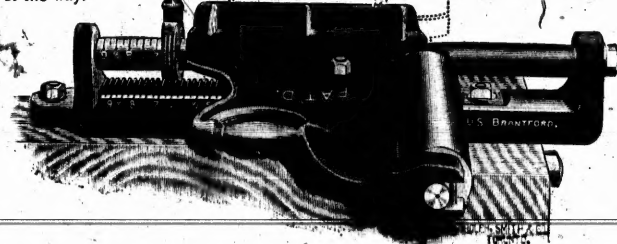
Saw Guide turned back to permit the saw being removed without disturbing the Guide.



Saw Guide in position to saw: can be adjusted while saw is in motion.

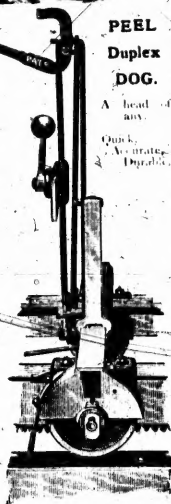


The Grooved Stop, shown handle up, is moved to any desired thickness, and turned down and roller grasped by handle and run back to it when the roller is the desired distance from saw. When not in use it is turned down out of the way.



PEEL
Duplex
DOG.

A head
any
Quick
Asstrate
Durable



IT IS NOT A CHEAP MILL in the popular sense of the word, that is, badly built of poor materials, but a first class mill with special points and improvements, but at a low price. The mill can be furnished complete as shown in cut, with track ribbon and sills built in sections so as to be easily moved and set up again. Or it can be complete to the track iron only. When desired the mandrel can be lengthened to suit any special position, or to enable two engines to be attached to the one saw. The carriage can be made any desired length and in section, to be attached and used when wanted.

PRICE LIST.

No. 0 Saw Iron, complete as shown in cut (to timbers track iron is laid up but not including timber and sills) with wooden frame, Patent Saw Guide, Patent Timber Gauge, 2 feeds, feed belt, pulley 24x10in. face with tightener frame and pulley, splitter and rubber roller connected. Carriage with two log seats to feet apart, with V and flat wheels running in reservoir dust proof brass boxes, solid knees, 2 Peel Duplex Dogs, that grab a round log top, and a square log top and bottom, patent friction set works, setting over the log, working carriage either way; extra pinion on dog shaft to enable one log seat to be moved up nearer to cut shorter than to feet; woodwork of carriage, 26 feet of rack stick, 35 feet of back track and of V steel front track planed true, and screws for same, all set up complete, knocked down and delivered f. o. b. cars, without saw, no main belt and no framework under track. \$ 400

Track Ribbon and Sills, as shown in cut, framed in 12ft. sections with splicing plates arranged so that it can be readily taken up and reset. 75c. per foot, or... 27

Extra Mandrel per foot, to enable a second engine to be attached, \$1.50 or say 5ft. and sill box habilitated... 12

Extra Pulley, 24x10in. face bored and key seated... 9

Timber Gauge,
Roller turned down.

Dotted line shows
Gauge in position to
saw.

Cost to Increase the Length of Carriage can be Estimated from the following:

Each extra log seat, knee piece and slide, wheels, boxes and pinion \$35 00

Peel Dog, complete, each one (smallest size) 15 00

Segment, each 3 feet long by 1 1/2 wide round tooth, and bolts... 2 75

Track, V steel track planed true in 10ft lengths, per foot and screws 75

Flat Track, drilled and counter sunk with screws, per foot... 10

Woodwork of carriage for each extra foot in length... 1 00

Dog Shaft, turned, includes couplings, per foot... 75

Patent Timber Gauge, small size same as used on No. 0 Irons... 25 00

Patent Timber Gauge, same style, large size... 35 00

Patent Saw Guide, adjustable... 8 00

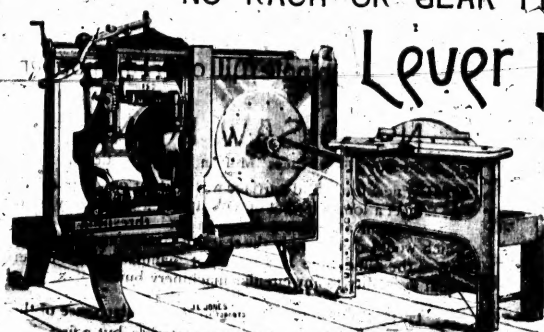
Sawdust Carrier, 20 feet centres using No. 35 chain... 25 00

EXTRA FOR SAWS.

Diameter of Saws.	40in	42in	44in	46in	48in	50in
Canadian Solid.	\$25	\$30	\$36	\$42	\$50	\$ 55
American Solid.	30	35	42	50	55	65
Emerson's Clipper.	50	57	62	70	80	88
Emerson's Planer.	75	80	85	95	105	115
Hoe Chisel Tooth.	85	90	95	105	120	140
American Brooke Bit.	60	65	70	75	90	100
*Diston Chisel Tooth.	75	80	85	95	100	110

SELF-ACTING SHINGLE MACHINES

NO RACK OR GEAR FEED, BUT PATENT



Lever Feed Slow Feed to Saw,
Quick Return.

Cuts Shingles,

Box Stuff or Heading
IN SHINGLES,

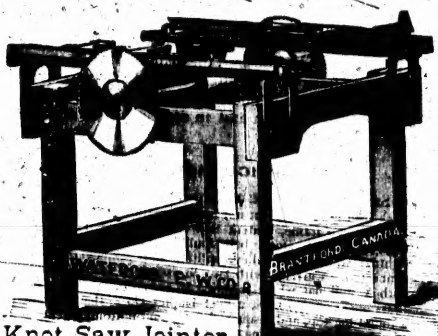
20 Tooth Pinion cuts for Canadian Market scant $\frac{3}{4}$ butts, or with
15 gauge saws, 3 shingles out of 1 $\frac{1}{2}$ thick.

18 Tooth Pinion cuts for American Market plump $\frac{3}{4}$ butts.

TO CHANGE FOR

Heading or Parallel Stuff.

With Improved Feed Works is more Simple than Before.



Knot Saw Jointer.
should run 2,500 rvt

Shingle Packer,
Makes Square Bunches



16	Double Tooth Pinion cut	$\frac{1}{2}$ inch thick		HEADING,
22	do	do	do	BOXBOARD
12	Shingle	do	do	and
14	do	do	do	PICTURE BACK
15	do	do	do	STUFF.

No. 1 Machine uses 36 and 38 inch saws. Cuts 14 to 18 inches long
by 14 wide; weight, including Jointer, as shown in cut 2,300 lbs.
Fully, 12x8 $\frac{1}{2}$; should run 1,400 to 1,600 revolutions per minute.

No. 2 Machine uses 40 and 42 inch saws; cuts 14 to 20 inches long with
40 inch saw, and 14 to 22 inches with 42 inch saw, by 24 inches wide.
Weight, including Jointer, as shown in cut 2,800 lbs.
Pulley, 12x8 $\frac{1}{2}$; should run 1,400 to 1,700 revolutions per minute.

Smallwood's No. 1 (small size) Patent Self-Acting Lever Feed
Shingle Mill—With improved feed works, all iron with the excep-
tion of three braces including all late improvements, (mentioned below)
making the machine heavier and more durable as illustrated. We
generally use American shingle saws of the best make—has 36 inch saw

taper ground to 14 or 15 gauge at rim, with 100 teeth. Capacity 10,000 to 20,000 per
day. Cost of Machine complete, with Jointer and Belt to Jointer as shown in cut.... \$250 00
No. 1 Machine with 38 inch saw, including Jointer and Jointer Belt..... 260 00

Smallwood's No. 2 (large size) Patent Self-Acting Lever Feed Shingle Mill—
With improved feed works same as No. 1, but much larger, heavier, and with larger
blocks of much greater capacity—15,000 to 30,000 per day; made for extra large and
wide blocks, with table to set block on while being dozed. Uses 40 inch saw, taper
ground to 14, 15 or 16 gauge at rim. 100 teeth. Includes Belt to Jointer and Jointer

No. 2 Machine with 42 inch saw, including Jointer and Jointer Belt..... 300 00

Smallwood's No. 1 Machine, without Jointer; weight, 1,800..... 320 00

Smallwood's No. 2 Machine, without Jointer; weight, 2,400..... 280 00

If Improved feed works are not wanted in above machine deduct \$30..... 270 00

"Boss" Shingle Machine, with 40 inch saw without Jointer..... 300 00

"Boss" Shingle Machine, with 42 inch saw without Jointer..... 310 00

Waterous Lath Mill, 1 saw..... 125 00

Waterous Lath Mill, 2 saws..... 135 00

Waterous Lath Mill, 3 saws..... 140 00

Waterous Lath Bolter, each..... 55 00

Six Knife Jointer, illustrated above; Iron and Wood Frame; weight, 400..... 35 00

Six Knife Jointer, as above arranged for two boys or one to joint, with reversible shield..... 70 00

Double 40 inch Wheel Jointer, Iron Frame..... 75 00

one or two operators..... 100 00

Single Knot Saw Jointer; one square 14 inch saw. One carriage and one saw..... 35 00

Double Knot Saw Jointer. Illustrated above. Two Carriages and Saws, including 2 spare
14 inch saws..... 50 00

Shingle Packers. Illustrated above, 18, 20, 22 or 25 inches wide..... 20 00

Improvements in the Smallwood

Shingle Machine.

WE have lately changed entirely the feed works of our
Smallwood Shingle Mill, and added patented improve-
ments by which the operator can now, by a simple device,
make the machine cut all tips and all points at either end of
block continuously. By this arrangement knots or other im-
perfections can be put into the points of shingles, keeping
them No. 1; and when this is worked out, the feed is reversed
and points made at the other end till block is evened up, and
then machine can be made to work butts and tips alternately
as before.

As this adds considerably to the cost of making the machine
and very much to its value, we have been forced to advance
the price as above.

Champion Drag Saw, two saws 6 $\frac{1}{2}$ feet x 12 inch, and tighners,
without Carriage..... 140 00

Jack Works, or Carriage, for Champion Drag Saw. With plain
straight linked chain..... 90 00

The same with No. 600 Giant Chain..... 120 00

The Waterous Drag Saw, with carriage and fast and loose pulley,
6 to 6 $\frac{1}{2}$ foot saw..... 90 00

The Bruce Drag Saw Rig. Illustrated above. Includes Car-
riage, as shown and fast and loose pulley for power, 3 to
5 $\frac{1}{2}$ foot saw..... 70 00

Champion Knee Bolter and Sapper. Includes 50 inch saw..... 1800 00

Driving Pulley is put on Mandrel on outside of frame to make connections easy, and
springs are attached to pulleys to hold them firmly in place on set wheels.

Friction clutch attached to cone pulley to start and stop carriage keeping feed pinion
and wheel always in gear. Wheel and pinion are both turned on face and side.

